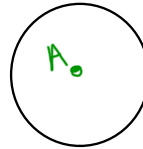


10.1-10.3
Quiz Thursday

Ch 10 Circles

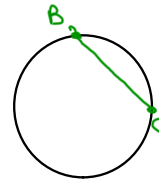
10-1 Circles and Circumference
10-2 Angles and Arcs



Circle--the set of all points in a plane equidistant from a given point

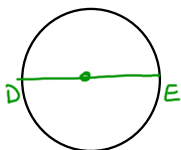
Center--given point

$\odot A \rightarrow$ circle A

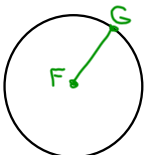


Chord--segment whose endpoints are on the circle

\overline{BC} is a chord

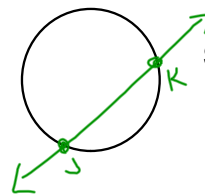


Diameter--chord that passes through the center



Radius--segment whose endpoints are the center and a point on the circle

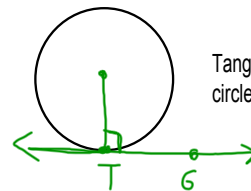
$$rad = \frac{1}{2} diam$$



Secant--line that contains a chord

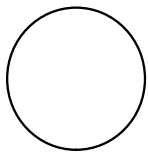
\overleftrightarrow{JK} is a secant

\overline{JK} is a chord



Tangent--line that intersects the circle in exactly one point

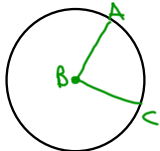
\overleftrightarrow{FG} is a tangent



Circumference--distance around

$$C = 2\pi r \quad \text{or} \quad C = \pi d$$

$$\pi = \frac{C}{d}$$

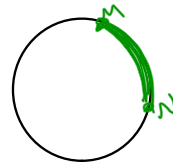


Central Angle--Angle whose vertex is the center and whose sides are radii.

$\angle ABC$ is a central \angle

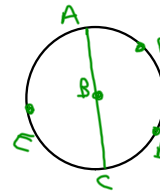
Central angle intercepts an arc.

$\angle ABC$ intercepts \widehat{AC}



Arc--part of the circle

\widehat{MN}



Minor Arc--

\widehat{AF} \widehat{AD}

$< 180^\circ$

2 letters

Major Arc--

\widehat{AEF}

$> 180^\circ$

3 letters

Semicircle--

\widehat{AEC}

180°

3 letters

\widehat{ADC}

Measure of the central angle = measure of the intercepted arc

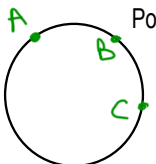


$$m\angle XYZ = 90^\circ$$

$$m\widehat{XZ} = 90^\circ$$

$$m\widehat{ZAX} = 270^\circ$$

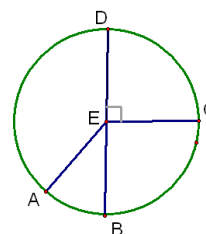
Theorem 10.1--In the same or congruent circles, 2 arcs are congruent iff their central angles are congruent



Postulate 10.1--Arc Addition Postulate--

$$m\widehat{AB} + m\widehat{BC} = m\widehat{AC}$$

Arc length



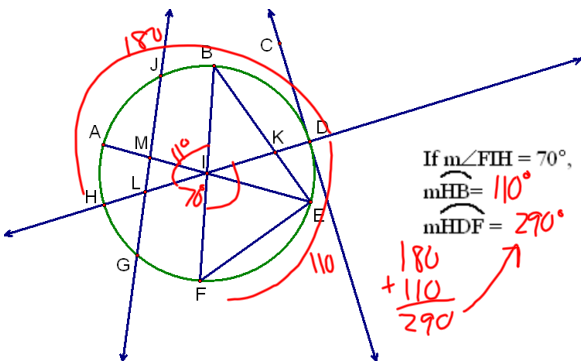
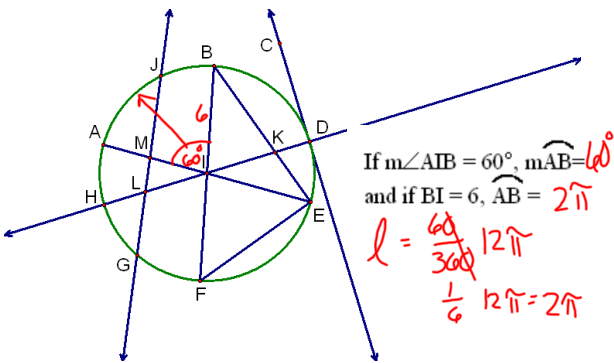
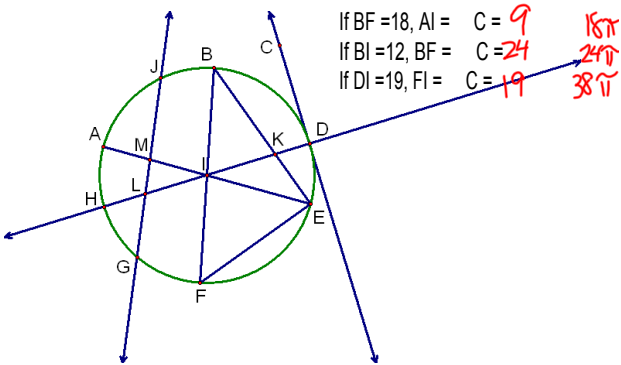
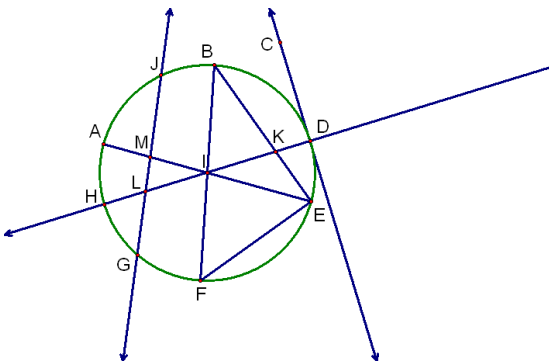
$$l = \frac{A}{360} \cdot C$$

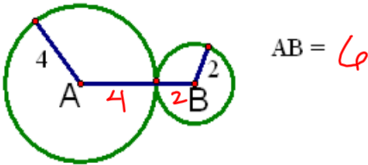
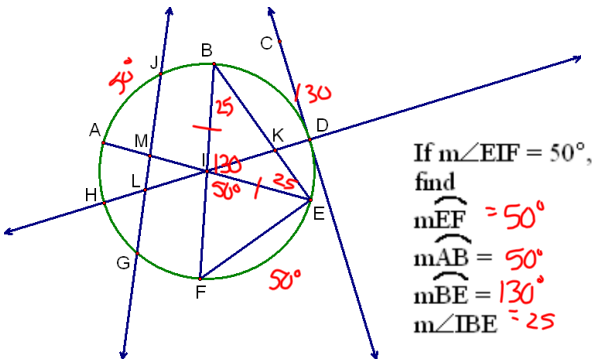
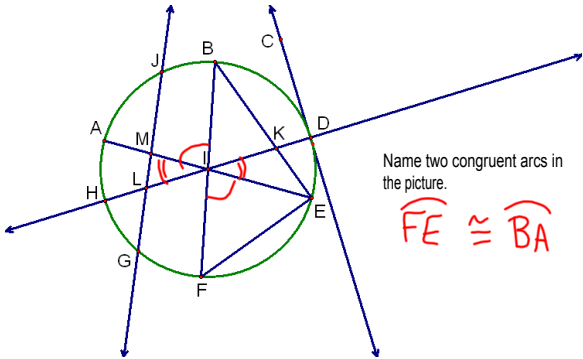
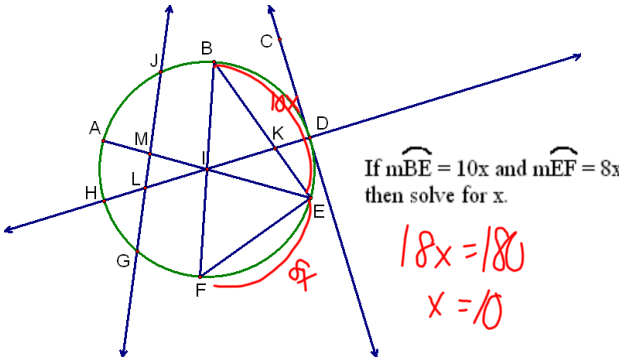
DB is the diameter
DB = 10

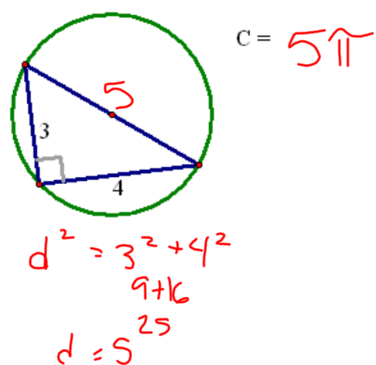
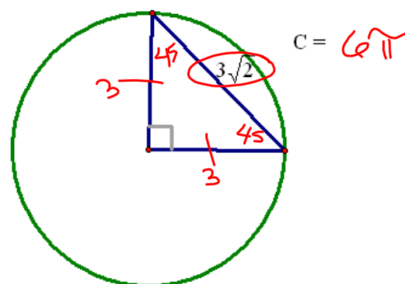
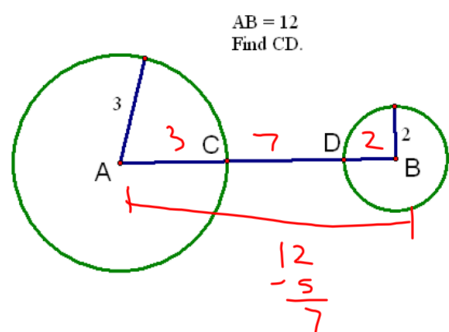
$$C = 10\pi$$

$$\widehat{DC} = \frac{90}{360} 10\pi = \frac{1}{4} 10\pi = \frac{5\pi}{2}$$

$$\widehat{DCB} = \frac{180}{360} 10\pi = 5\pi$$







HW

p526-527

16-20, 32-37, 52-54

p533

14-23, 32-42